**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION**

MOSAID TECHNOLOGIES INC., ET AL.
 	
    Plaintiff,
 	
    v.
 	
FREESCALE SEMICONDUCTOR, INC., ET AL,
 	
    Defendants.
	CIVIL ACTION NO. 6:11-CV-173
	
	JURY TRIAL DEMANDED

**DEFENDANTS' MOTION FOR SUMMARY JUDGMENT
OF INVALIDITY FOR INDEFINITENESS**

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I.   INTRODUCTION

A claim is invalid under 35 U.S.C. §112 ¶2 unless the claim "particularly point[s] out and distinctly claim[s] the subject matter which the applicant regards as his invention." Claim 8 of U.S. Patent No. 5,577,230 ("the '230 Patent") is impermissibly vague because it specifies that the invention "may include" self-modifying code. It is unclear from the plain text of Claim 8 whether the applicant regards self-modifying code as an element of his invention.

II.   ISSUE TO BE DECIDED BY THE COURT

Is dependent claim 8 invalid for indefiniteness because it fails to particularly point and out and distinctly claim the invention as required by 35 U.S.C. §112 ¶2?

III.   STATEMENT OF UNDISPUTED MATERIAL FACTS

Claim 1 of the '230 patent recites:

> 1. Apparatus for interfacing computer memory using an enhanced Harvard architecture, which comprises:
>
>> a) first memory means for storing program instructions and data;
>>
>> b) second memory means, for storing program instructions and data, such that program instructions and data may be simultaneously stored in at least one of said first or said second memory means; and
>>
>> c) a processor coupled to the first and second memory means by respective first and second interface buses, the processor including:
>>
>>> means for requesting fetches of program instructions from the first and second memory means;
>>>
>>> means for requesting transfers of data between the processor and the first memory means and the processor and the second memory means; and
>>>
>>> means for arbitrating which of the first and second memory bus interfaces a particular program instruction fetch or data transfer is to take place.

Claim 8 depends from Claim 1 and introduces a limitation that the program instructions of Claim 1 "may include" self-modifying code:

> 8. The apparatus according to claim 1, wherein at least a portion of the program instructions *may include* self-modifying code which generates instruction data, which instruction data in turn is executable as a program instruction.

(Emphasis added.) Self-modifying code is not inherently part of program instructions.

IV.   ARGUMENT

A.   Summary Judgment Standard

Summary judgment is proper when the pleadings, discovery, and affidavits indicate there is "no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). Material facts are those affecting the outcome of the case. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). An issue of material fact is genuine if the evidence could lead a reasonable jury to find for the non-moving party. *Id*. In determining whether a genuine issue for trial exists, the court views all inferences drawn from the factual record in the light most favorable to the non-moving party. *Id*. at 255; *Matsushita Elec. Indus. Co. v. Zenith Radio*, 475 U.S. 574, 587 (1986). There is no genuine issue of material fact "[w]here the record taken as a whole could not lead a rational trier of fact to find for the non-moving party."

B.   Standard for Indefiniteness under 35 U.S.C. § 112 ¶ 2

"The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112 ¶ 2. The second paragraph of §112 contains two requirements: "[F]irst, [the claim] must set forth what 'the applicant regards as his invention,' and second, it must do so with sufficient particularity and distinctness, i.e., the claim must be sufficiently 'definite.'" *Allen Eng'g Corp.*

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v. Bartell Indus., Inc., 299 F.3d 1336, 1348 (Fed. Cir. 2002). Determining whether a claim is

definite requires an analysis of "whether one skilled in the art would understand the bounds of

the claim when read in light of the specification. . . . If the claims read in light of the

specification reasonably apprise those skilled in the art of the scope of the invention, § 112

demands no more." *Miles Lab., Inc. v. Shandon, Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993).

C.   The Plain Language of Claim 8 Renders the Claim Indefinite

1.   *Claim 8 Depends From Claim 1, Which Is Directed To An "Enhanced Harvard Architecture"*

The '230 patent discloses an "enhanced Harvard Architecture" that purports to solve

certain disadvantages of conventional Harvard Architecture. In a conventional Harvard

Architecture, as depicted in Figure 2 of the '230 patent (reproduced below), the Program Fetch

Unit – which fetches program instructions to the processor's registers for execution by the

processor – is connected to a dedicated Program Memory, and the Data Read/Write Unit is

similarly connected to a dedicated Data Memory.
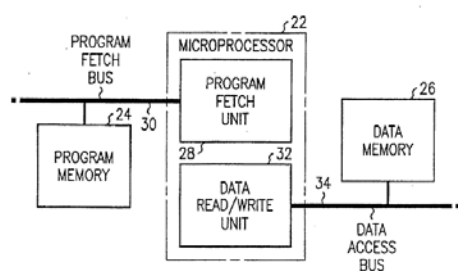
FIG. 2 (PRIOR ART)
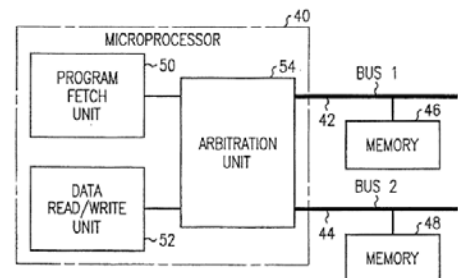
FIG. 3

The conventional Harvard architecture has certain speed advantages over the prior art Von

Neumann architecture, in which the Program Fetch Unit and Data Read/Write Unit share access

to a single Program and Data Memory (Figure 1 of the '230 patent, not reproduced herein). This

is because instructions can be fetched from Program Memory at the same time as data is read

from the Data Memory. '230 patent at 1:30-35. On the other hand, the conventional Harvard

architecture does have a drawback: Because the Program Fetch Unit cannot read program

instructions from the Data Memory, self-modifying code (which requires at least that the

microprocessor be able to modify program memory using data accesses) cannot be used. *Id*. at

1:57-62.

To overcome this limitation of conventional Harvard architecture, the "enhanced Harvard

architecture" disclosed in the '230 patent allows each of the Program Fetch Unit and the Data

Read/Write Unit to access both memories in the system via an arbitration unit (Figure 3 of the

'230 patent, reproduced above). *Id*. at 4:17-24. Because program instructions as well as data can

be stored in each memory, and because each memory can be accessed by both the Program Fetch

Unit and the Data Read/Write Unit, the enhanced Harvard architecture supports the use of self-

modifying code whereas a conventional Harvard architecture does not because program

instructions and data are not stored together. *Id.* at 1:57-62.

Claim 1 is directed to this enhanced Harvard architecture, reciting an "[a]pparatus for

interfacing computer memory using an enhanced Harvard architecture" that includes a "first

memory means for storing program instructions and data," a "second memory means, for storing

program instructions and data," and "a processor coupled to the first and second memory

means." As claim 1 provides for fetching program instructions from and writing data to both the

first and second memory means, the apparatus recited in claim 1 supports self-modifying code.[1]

> 2. *Claim 8 Is Indefinite For Failing To Provide A Discernable Boundary Between What Is Claimed And What Is Not Claimed*

Claim 8, which depends from claim 1, is directed to the program instructions that were

recited in claim 1:

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[1] Claim 1 further recites that the processor include a "means for requesting fetches of program instructions from the first and second memory means" as well as a "means for requesting transfers of data between the processor and the first memory means and the processor and the second memory means." *Id.* at 6:63-67.

> 8. The apparatus according to claim 1, wherein at least a portion of the program instructions *may include* self-modifying code which generates instruction data, which instruction data in turn is executable as a program instruction.

(Emphasis added). A plain reading of this claim shows that, due to its use of words of permission ("may include") rather than words of requirement ("include"), it is incompatible with the purpose of a validly drafted patent claim: To both define and to put the public on notice of the scope of the patentee's property right. To do this effectively, claims must be definite – they must allow a person of ordinary skill in the art to read and understand both what is claimed and what is not claimed. 35 U.S.C. § 112 ¶2. This definitional purpose is, however, frustrated where competitors, and the public, cannot read claim terms and understand what they cover and what they do not. *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942).

There is no discernible boundary – no clear delineation of the invention's metes and bounds – when a patent claim uses the phrase "may include" in this manner. Simply put, it is impossible to determine whether the program instructions in the claimed invention include self-modifying code. One skilled in the art would be unable to discern whether claim 8 may only be satisfied by an apparatus that is actually storing self-modifying code, or whether it must be able to possibly store self-modifying code, or whether it may be satisfied by an apparatus that is not storing self-modifying code at all. Use of the phrase "may include" thus renders this claim indefinite.

V. CONCLUSION

Asserted claim 8 of the '230 Patent is indefinite because it uses the permissive language "may include" in a manner that fails to appraise the public of the metes and bounds of the claimed invention. There is no genuine issue of material fact that the Claim 8 does not set forth

what the applicant regards as his invention. Accordingly, Claim 8 is invalid under 35 U.S.C. §

112 ¶ 2.

Dated: September 14, 2012   Respectfully submitted,

/s/ *David L. Witcoff*
David L. Witcoff
Lead Attorney
dlwitcoff@jonesday.com
Timothy J. Heverin
tjheverin@jonesday.com
Emily M. Wood
ewood@jonesday.com
JONES DAY
77 W. Wacker Drive
Chicago, Illinois 60601-1692
Telephone: 312-782-3939
Facsimile: 312-782-8585

Mark C. Howland
mchowland@jonesday.com
JONES DAY
2727 North Harwood Street
Dallas, Texas 75201-1515
Telephone: 214-220-3939
Facsimile: 214-969-5100

ATTORNEYS FOR DEFENDANTS
FREESCALE SEMICONDUCTOR, INC.

/s/ David M. Hoffman
David M. Barkan, Lead Attorney
FISH & RICHARDSON P.C.
500 Arguello Street, Suite 500
Redwood City, CA 94063
Tel: (650) 839-5070
Fax: (650) 839-5071
barkan@fr.com

David M. Hoffman
FISH & RICHARDSON P.C.
111 Congress Avenue, Suite 810
Austin, TX 78701
Tel: (512) 226-8154
Fax: (512) 320-8935
dhoffman@fr.com

Jennifer P. Ainsworth
WILSON, ROBERTSON & CORNELIUS,
P.C.
909 ESE Loop 323, Suite 400
Tyler, TX 75701
Tel: (903) 509-5000
Fax: (903) 509-5092
jainsworth@wilsonlawfirm.com

ATTORNEYS FOR DEFENDANT
NVIDIA CORPORATION

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CERTIFICATE OF SERVICE

The undersigned certifies that on September 14, 2012 all counsel of record who are

deemed to have consented to electronic service are being served with a copy of this document via

the Court's CM/ECF system pursuant to Local Rule CV-5(a)(3)(A).

/s/ *David L. Witcoff*
David L. Witcoff